

## **O' Brien Center**

Simon J. Atkinson, Kenneth W. Dunn, Bruce A. Molitoris, Division of Nephrology, Department of Medicine, Indiana University School of Medicine and Department of Biology, School of Science, IUPUI

The O'Brien Center for Advanced Renal Microscopy and Analysis is based around the Indiana Center for Biological Microscopy in Indianapolis (ICBM), and is supported by partnerships with Purdue University and the University of North Carolina. The Center acts as a national resource for investigators to apply state-of-the-art techniques in fluorescence microscopy to research in kidney biology and pathophysiology. Investigators have access to four microscope systems capable of multiphoton and confocal imaging and optimized for intravital imaging studies on rodents. Point-scanning and spinning-disk confocal systems are also available. Training and assistance with development of imaging protocols are available from expert staff at the ICBM. The Center emphasizes development of new and improved methods for imaging the kidney and seeks to disseminate these innovations as widely as possible amongst renal investigators. Currently, the Center is (1) developing new software for rendering, segmentation, analysis and stabilization of three-dimensional data from live imaging experiments; (2) developing new fluorescent probes and delivery methods optimized for intravital imaging studies in the kidney; and (3) exploring methods to increase the reach of multiphoton imaging in the kidney. Funding is available through the Center's O'Brien Fellows Program to support short visits (one-two weeks) to Indianapolis for data collection, development of imaging protocols to address particular questions and for training in fluorescence microscopy and image analysis. The Center also offers instructional workshops in fluorescence microscopy and intravital imaging every two years. Current information about how to access the resources available through the Center is available at <http://medicine.iupui.edu/nephrology/obrien>.

The resources available through the center are made possible by funding from NIH/NIDDK, the Lilly Endowment, Inc., and Indiana University.